

# 432 MHz AND ABOVE EME NEWS

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## EME NETS

**14.345, 10 AM ET SATURDAYS, AFTER VARO NET SUNDAYS:**

- NET CONTROL and SKED COORD: JOE, K1RQG (207-469-3492), E-MAIL: [Joe, K1RQG](#)
- EME STANDINGS: JIM STARKEY, W0KJY, 3845 CAPITOL DRIVE, FT.COLLINS, CO 80526, (970) 226-0669)
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# CONDITIONS

Sept activity was divided between the official skeds weekend (SW) on the 8/9th and the Italian EME Contest on the following weekend. I feel this diluted SW activity. We have a similar situation this month. The Oct SW is one week before the ARRL EME Contest. I believe this contest date was chosen, because of conflicts with other contests. Unfortunately it has a lower declination and higher noise than the SW. However because of the difference in date, I'm certain that activity will be down during the actual SW. Hopefully the contest will be a good one! In the Sept SW there was much Faraday rotation on 70 cm. Echoes were weak or nonexistent with 90 degs of rotation required between TX and RX. On 1296 signals were good quality with lot of SSB activity. There was also activity on 13 and 3 cm.

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### [\*\*DL1YMK\*\*](#)

Michael reports planning a 70 cm dxpedition to XF1 toward the end of Sept, but has no follow up details? He reports finishing mechanical work on a 432 array consisting of 6 x 8.5 wl BV-yagis, calibrating an MT1000 el rotator and has fired up his YL1050 amp, which was off for nearly a year.

### [\*\*DL4APV\*\*](#)

Bernd reports that his Sept 432 skeds were all NG. G4YTL was (O/O) but no Rs because YTL's PA died before they completed, KJ7F was another partial (M/-) – he never received a report and KO7N was nil. Condx were not very good. On random only partials were by Bernd from K1RQG who had a strong signal, and from smaller stations like RW3RW. Bernd's echoes were very weak and mostly vertical. He hopes to improve his signal with a new 1 5/8" feed cable obtained at Weinheim.

### [\*\*DL5LF\*\*](#)

[\*\*Frank\*\*](#) (JO54AF) has expanded from one to 2 x 8 wl yagis and reports on the Sept SW -- The conditions on 70 cm seemed very bad. I had rain most of the time, 10 deg C and nearly no wind. I was on both days, although not all the time. I heard nothing most of the time. I made my 2 QSOs within 1 hour on the 15th, and none on the 16th. QSO'd were VE1ALQ and K2UYH with weak (O) reports. I also heard 2-3 others, but did not decode their calls. I did not hear DL9NDD. He is normally very strong even with a single yagi. I will be on for the ARRL contest.

### [\*\*F2TU\*\*](#)

Philippe was only active on 3 cm in Sept I QSO'd on 10 GHz on 24 Aug LX1DB (M/M) for initial #8, on 10 Sept W5LUA (539/O) #9, and on 13 Sept W7SZ (M/M) #10. Although I was not QRV during the SW or Italian EME Contest on the low bands, I will be QRV on all band 70 to 3 cm for the ARRL Contest.

#### F2DRO

Dom (JN03) writes -- I spent my holidays moving to the new house. It was a really exhausting task because of the very heavy junk I accumulated during the past 20 years. Moving my big 250 kg 2 m PA was hard! It is now complete. The last thing I moved was the 3 m dish, which was difficult because of the narrow road to the farm as well as the street of the village, we had to pass through. If I wanted to stay discrete and not have anyone know that I am going to put up big antennas, I failed! I need several months of work on the house, and then I'll start to put the antennas back up. No need for a permit for the 3 m dish, but my 20 m tower is another story. I will let you know when I will be QRV on the moon.

#### F5HRY

Herve is QRV again on 23 cm [I am not sure if these QSOs will count as initials for those who have worked him before]. He is using a 2.6 m dish with 400 W at feed and 0.4 dB LNA from JN18eq. I worked HB9BBD (549/529) for initial #10, K0YW (559/539) #11 very loud, G3LTF (O/O) #12, IK2MMB (O/O) #13 and K1RQG (O/O) #14. Heard were OZ4MM, G4CCH and some unidentified stations that answered my CQ. Please QSL to: Herve BIRAUD, 37 rue Pierre Brossolette, F 91600 SAVIGNY SUR ORGE.

#### F8DO

Marius plans to become active on 432 EME again soon. He has a 500 W PA and 0.4 dB NF preamp. Marius asks "What is the minimum gain for hearing echoes on 432, it seems around 23 dB?"

#### G3LTF

Peter's report for Sept -- On 8 Sept I was on 432. The Faraday was 90 degs and very sharp - echoes were inaudible. Around moonrise I worked VK4AFL, UA3PTW and JA6AHB, and the next morning DL9NDD. CWNR were K4EME and KU4F and heard were K5WXN and UT3LL. I then put the 1296 feed in and worked (on 9 Sept) K1RQG for initial #178 it was good to hear Joe back on! Also QSO'd were F5HRY #179, K2UYH, G4CCH, SM2CEW and OZ6OL. Heard were K0YW, IK2MMB, WD5AGO and W7SZ. On 16 Sept I was on 13 cm and found conditions difficult as the wind was very high causing the dish to move off the moon. I had good echoes and CWNR ZS6AXT. While on holiday in France earlier in the month, I visited Graham, F/G8MBI. I saw his monster 2 m yagi and his 4 m dish, which is progressing towards 1296 operation.

#### GM0ONN

Iain's plans to be QRV again on the moon during the ARRL Contest have hit a snag -- I'm afraid that I will be away on business trips for both ARRL Contest weekends. I am very busy (as always) with a new job, but keep building and testing. I still have the 70 cm system going and have almost finished a VE4MA feed for 23 cm. I am also looking for a larger dish. On 3 cm my system is working 100 % and I just need to power up one of my TWTA's to be QRV. I will only have 10 W at 1st. Hopefully I will be able to get on for the DUBUS/REF Contest in the spring.

### **HB9BBD**

Dominique was active on 1296 during the Sept SW and reports I worked the following stations OZ6OL, JA6AHB, ZS6AXT, VE1ALQ, F6ETI, K0YW, K9BCT, IK2MMB, SM3AKW, IK3COJ, OZ4MM, K2UYH, K1RQG, W7SZ and F5HRY for initial #170. The last 2 QSOs were made when the dish was pointing into a silo.

### **HB9Q**

Dan sent a list of stations worked on 432 in Sept I was active on 15 Sept. Conditions were very unstable and activity was extremely low. I hope it will improve for the ARRL EME Contest. Our equipment was running, but not the way it should. We did identify several parameters we need to improve. WX permitting we will be working on them the coming weeks and hope to be QRV with an optimized station for the contest. QSO'd were at 0249 UA3PTW (429V/559), 0307 UT3LL (429V/449), 0315 VK4AFL (549H/559), 0326 KL6M (539V/549), 0355 JA6AHB (549V/549), 0409 EA3DXU (429V/O), 0612 DJ3FI (429H/549), 0623 RA3LE (429H/569), 1425 EA8FF (349H/579) for a new DXCC and new continent, 1429 VE1ALQ (559H/579) for initial #165, 1529 S51ZO (OH/O), 1549 S52CW (O/O), 1554 SM3AKW (439H/559) and 1612 W2WD (539H/449).

### **IK5WJD**

Alex reports that he and Pietro, I5PPE (10 GHz Toscana EME Team in JN53ns) were QRV in the Italian EME Contest on 3 cm with their 3 m dish (F/D 0.28 and vert pol - quick switching V-H is possible. Moon noise is < 1 dB with a 36077 PHEMT LNA. Their TWTA output power is about 35 W. They hear their own echoes with good readability and are up to initial #11 on 10 GHz EME. They use both calls. Skeds can be arranged by home tel to I5PPE (+39-55-8722642) or email at:

Alex, IK5WJD

Look for them in the ARRL Contest.

### **K0YW**

Bruce was active on 1296 in Sept. Stations worked included ZS6AXT (559/579), G4CCH (559/589) and SSB, K1RQG (559/579) and SSB, K5JL (589/589) and SSB, SM3AKW (559/559), VE6NA (549/579), W7SZ (549/559), VE6TA (559/579), W2UHI, OZ6OL, DJ9YW and DK0ZAB. Bruce says the TS2000X is peaked up at the factory on 1269 MHz and that's why people report deafness at 1296.

### **K1RQG**

Joe is having fun off the moon again -- I am QRV on 70 cm with the 32' dish. I also had my 1st 23 cm QSO (on random) with approximately 4 W at the feed. I answered a CQ by K0YW (559), but he QRZ'd me and there was no completion. K5JL then called me (569/529). I could hear my own echoes when calling K0YW. Other stations copied on Saturday and Sunday (25/26 Aug) were W2DRZ (539), W2UHI (559) and VE1ALQ (549) and K0YW. Stations reporting hearing me were VE1ALQ, K0YW, and K5JL. This was all on 23 cm. I only TX'd on Sunday eve and just listened on Saturday. On 70 cm I QSO'd KA0Y (579/559) and (55/52) on SSB, K5WXN (559/559) and again KA0Y (559/559). I also heard EA3DXU (589) most likely on a sked with KO7N, nil from KO7N. On 70 cm during the post SW I worked DL6NAA, UA3PTW, KA0RYT, G4YTL, DK3WG, S52CW, IN3AGI, UT3LL, EA8FF, WA4NJP, SM3AKW, partial DL4KG, VE1ALQ, JA6AHB, partial VK4AFL, DL9KR, K4EME, KU4F, W7CNK, EA3DXU and KL6M. Heard but not worked were W4ZRZ and KJ7F. Also many, many more stations heard and much QRM at times. Later in the fall I will build a new p/s and run about 1.5 kW. No auto track yet. Performance so far on both bands is above expectations!

### **K7XQ**

Jeff reports that his 1296 system is still down -- The xvrtr is still in repair at DEM. On 432 I heard DL9KR very well, but did not complete. I lost my preamp and have to get it repaired. The amazing thing is that I copied DL9KR without a preamp using only the FT-847 and a pair of 9 wl yagis. DL9KR was the 1st 70 cm EME signal ever received at my QTH. He copied me (439) with my AM-6155 at 250-300 W. I never heard DL9NDD and did not even see him on FFTDSP. I am not sure if he was there at all. I never heard KL6M, so I am assuming he never got on. I should have a preamp installed in the shack for the next SW.

### **K8GP**

Terry's contest group was active with 8x FO22 yagis and 1500 W during the ARRL's Sept VHF Contest (also the SW) from West Virginia (FM08fq) with full elevation. I have not received a full report on their results, but understand they did not make a lot of QSOs. They operated from this location just about all the ARRL VHF contests. So if you missed them and would like a QSO, I suggest you contact Terry for a sked in a future contest.

### **KL7HFQ**

Roger writes -- It looks like EME is not going to happen this year unless I can get my elevation rotator fixed soon. The WX is going to get cold and I will be off the air until the spring of next year. This summer has been so busy with trying to get things done for the house that hamming has taken a back seat. I will try and keep in touch, but it is frustrating. I was ready to get on and the elevation rotor would not budge. I climbed the tower and had a friend push the elevation rotor box, but only a slight hum was heard.

#### **NOIPL**

Wilt in Wyoming (DN62uu) is setting up for 70 cm EME -- I have just gotten 4 x 22 el yagis going with an MGF1302 LNA and a 500 W PA. I have started to SWL, but have yet to hear a signal. I'm at that awkward point where everything seems to work, sun noise, etc, but I sure would love to hear someone - HI.

#### **PA0PLY**

Jan writes -- Here is an update for my EME station. Currently I'm QRV for 432 MHz EME. I had been struggling with VSWR problems since the winter. In the spring I decided to erect a scaffold next to the array in order to investigate all the antennas. Each antenna had a 7:1 VSWR! The increase in VSWR was not apparent down in the shack where it increased only a little and was within an acceptable value. Now everything is back to normal (1:1.1). I'm preparing an article for my WEBSITE at:

#### [PA0PLY's WEB site](#)

on this experience. [We will have this info in a future NL]. I also worked on an improved pre-amp with DL3BPC. Ron believes the input match is important and that a return loss (RL) of  $> 6$  dB is good. I used the JA4BLC design and found its RL much worse. We changed the design to provide a better RL by lengthening the source leads of the FET. We could not do better than a NF of 0.6 dB using a 10 dB attenuator in front of the noise source to ensure proper match. This preamp is supposed to do about 0.4 dB, but we were not able to confirm this figure. I send a spare unit to PA4FP to compare with a commercial DB6NT LNA. After installing the preamp, I regained a sun noise of 12 dB. Since people were asking about the G/T, I used SETI information to calculate this figure. Using the SETI information I prepared an Excel spreadsheet using the sun flux given on 410 MHz. This makes more sense than the 120 figure is measured on 2800 MHz. In the near future I plan to replace my K2RIW PA with a GS35B design for 3dB more power. I have erected a 3 m dish for 3 cm EME. It is now in a temporary position with the EL motor installed and the AZ drive to do. Since my wife reclaimed the garden after having the dish sitting there for over 4 years, I need to complete system testing and bring the dish to a nearby location for operation. My 1st priority is to install the AZ drive and a camera system. I'm not sure if I can be operational on 3 cm during the ARRL contest. If so, it will be with 40 W. The

latest news is that Hans, PA0EHG seems to be ready for 3 cm EME operation. He is reported to be hearing echoes with 20 W into a 3 m dish. I was in Italy during my holiday passed IN3HER's QTH. It appears that he has dismantled his dish. So he might not be QRV for EME anymore. [Does anyone have any info?]

#### **SK0CC**

Sven worked on 8 Sept on 432 OH2DG, EA8FF (region Africa), KU4F and LX1DB -- As we still are "beginners" and are aiming for WAC can you tell us who else besides PY5ZBU is QRV from South America on 70 cm? [I know of no one else at present.]

#### **VE4MA**

Barry reports that he and W5LUA are planning a period of 24 GHz EME activity that will permit other stations to listen and hopefully even result in new contacts (WA7CJO & AA6WI?) -- We are planning to use 2.5 minute sequencing for the following skeds: 9 Oct @ 0700 W5LUA-VE4MA 24192.100, 10 Oct @ 0800 W5LUA-VE4MA 24192.100. The choice of these dates was made to avoid the contest weekend and give a good visual moon for tracking. With visual tracking we hope to avoid the usual 10 GHz practice of pausing at the 1 minute point in a sequence for antenna peaking. Al and I are within 5 kHz of agreement on the frequency, but we will keep our echoes close together. The doppler shift can be very high (up to 70 kHz) so please be aware that there are dramatic differences in the calculated Doppler between the various programs. Al and I are both using W9IP's "Realtrack". Please let us both know if you will be listening or if you want to arrange additional skeds.

#### **VK3UM**

Doug reports that he was unable to get on the moon during the SW -- The southern part of VK experienced gale to storm force winds all weekend. Here we had almost constant winds of 60 kph with gusts of +120 kph. No damage but a little exciting at times on this here hill! It was most frustrating as I have done quite a lot of work on the phasing, preamp, etc. and I wanted to confirm the improvements.

#### **VK4AFL**

Trevor reports 70 cm conditions have been very variable over the last couple of months. This was especially noticeable during the Italian EME contest - deep fading and rapid by usual standards changes in Faraday shift throughout the weekend. Signals that were present were quite strong, though I did not work or hear anyone from Italy unlike last year. Nor did I get any initials over the contest period. In Aug I finally worked someone south of the equator [VK3UM] and 3 new ones during this month's SW: W7CI, K8GP and K1RQG. I am hoping for a good turn out during the ARRL contest.

### WA6PY

Paul brings us up to date on his projects -- I have been busy with home projects that have taken a lot of time and effort. EME wise, I now have a SCR584 radar pedestal. It is too heavy to be moved directly to my antenna site. I am working on disassembly it, and will then move it in pieces. I am interested in ideas how to convert selsyn signals into a digital form for AZ/EL readout and connection to a computer for tracking. [You need resolvers, but I do not have a ready source.] I hope to get this pedestal mounted and ready to go in few months. I will be QRV for the Nov part of the ARRL EME Contest on 1296 with my 8' dish. I hear my own echoes (M) copy. Unfortunately during the Oct contest weekend, I will be away.

### W7CI

Steve is back from a trip to Mongolia and Russia. Steve says that everything is working and that he is QRV again on 70 cm and available for skeds. He worked 2 JA's in Sept.

### W7SZ

Larry was active on 1296 and 10 GHz during Sept I worked 10 stations on 23 cm during activity weekend. The following weekend I switched to 3 cm and worked OX2AXH, PA3CSG, VE4MA, AA5C and WA7CJO. I am now up to initial #9 on 3 cm. Signal reports have been mostly (M/M) and skeds run the better part of 30 min, so I guess that I am close to minimum requirement for 3 cm EME. It's really a fun band and quite interesting to find and track the moon by its noise! [Later in the month Larry added 10 GHz QSOs W5LUA, OK1UWA and W6HD.]

### YO2IS

Szigy says -- Activity seemed to be low on 432 during the Sept SW. On Sunday I was calling and listening from 0415 to 0530 but heard nil. My last SW sked with DL7APV unfortunately was out of my window. I need the Moon at least 40 degrees elevation (KN05ps). I am still missing Oceania to complete 70 cm WAC. It is good news that VK3UM is back on. I hope he has a common window. I missed 9M8BV and need QSLs from 9M2BV! Skeds are always welcome. Use the email address from the header or my spare yo2is@yo3kxl.ampr.org.

### ZS6AXT

Ivo's Sept report follows -- On Saturday 8 Sept I started on 23 cm before midnight (on Friday local time), but the only station worked was JA6AHB (O/O). 5 1/2 hours later K1RQG appeared with good signals for initial #174, then K5JL, K0YW, G4CCH and SM3AKW. Heard was W7SZ. On Sunday I started at 0300 and QSO'd again a bit later K1RQG with better reports on both sides, my own echoes were strong too, followed by N2IQ, VE1ALQ, W2UHI, SM3AKW, HB9BBD, K0YW (by then signals went down and QSB was bad), F6ETI, W7SZ, K2UYH, k5JL and IK2MMB on horizon. Heard were K9BCT, PA3CSG and

**G4CCH.** My Moon window was quite short as compared with Eur. Next time during the contest I hope to work more stations on 23 cm and on Sunday around 0600 we will be on 13 cm for JA and Eur stations. If there is no response from W stations, I will be not on 13 cm later. We need to organize ourselves regarding times in the ARRL EME Contest for the bands above 23 cm, otherwise we will waste a lot of time without any QSOs. Any proposals and coordination should be done via MOON-NET. I would like to operate on 6 cm. Since my 6 cm horn is covered by Al foil, once I take the cover off, I cannot put it back quickly, and am scared to operate on other bands as I might burn out my 6 cm preamp. I finished 2 new 3 cm preamps with waveguide inputs, but still need to install the HEMTs. We have 30% rel humidity and thus a lot of static at present. I hope these will be better than the SMA input preamps, which have 1.3 dB NF with NE325 at best.

#### **K2UYH**

I was active on 432 and 1296 during the SW and post SW. On 70 cm I worked DL5LF (O/O) for initial #644 on sked and had a partial with NO7N (O/O), but he never copied my R's, and picked up KU4F (569/569) on random #645. On 1296, on 9 Sept nil was hear from F6ETI in sked. Marc, N2UO (x-LU6DW) QSO'd on 23 cm from my QTH K0YW, PA3CSG – lost, W7SZ and G4CCH. I then took over and worked at 0655 ZS6AXT (559/569), 0700 HB9BBD (57/57) on SSB, 0707 K0YW (55/56) on SSB for a 3-way, 0722 OZ4MM (55/45) on SSB, 0735 K1RQG (559/569) for initial #190, 0750 W7SZ (559/559), 0849 WD5AGO (539/549), 0900 SM2CEW (559/559), 0905 G3LTF (559/569), 0945 G4CCH (56/56) on SSB, 0956 K1RQG (55/55) on SSB and 1005 OZ6OL (55/54) on SSB.

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## **NETNEWS**

by

**G4RGK, DAVID DIBLEY**

**VE6NA**'s next door neighbour has removed some 50' trees and opened up his south east window.

**W5ZN** is making progress on his dish project.

**WA4NJP** has had no word from BY in more than a month.

**K2DH** is working on the dish project on paper.

**DL6LAU** is getting an 8.5 m dish.

**W7CNK** has lost a preamp.

**W4RDI** has had no computer control or receive system since his lightning strike.

**AL7EB** is not yet QRV on moon. He is awaiting a p/s for his 3 cm TWT. He hopes to have 8' dish up and on 3 cm soon. He also plans to try 23 cm.

**KA0RYT** has replaced the bent elements in his 70 cm array. He worked in Sept on 432 K1RQG, SM3AKW, a QRZ from DL6NAA and K2UYH. Heard were KJ7F and DL9KR.

**KC0W** expects to be active on 70 cm in near future.

**N7AM** is making progress on getting a 30' dish.

**N4PU** reports nothing new on his dish project.

**KL6M** has no window with Eur during the ARRL contest, and will instead will concentrate on 222 MHz on Oct 13/14.

**DL9KR** is looking for QSLs from W7ALW and W7EME.

**WB4BKC** is QRV on 23 cm and will be active during the contest in Oct. Jan heard nil from K7XQ in their sked.

**SM4IVE** is working on a 14 m dish. He has 8 ribs completed out of 20. Lars estimates the dish will weight about 1000 kg.

**K5WXN** worked VK4AFL and some Eur stations during Sept.

**W7QX** will be on 70 cm in the contest. He hopes to be on 23 cm as well but blew up HV p/s.

**W7FN** is still off 70 cm. Don has elevation problems.

**N2IQ** is now on 23 cm with his new 28' Kennedy dish.

**W2UHI** was on 23 cm in Sept and worked K5JL, ON5RR, W7BBM, N2IQ, and G4CCH.

**K5JL** worked WD5AGO and about 12 to 15 others in Sept including OZ6OL who was very loud.

**VE6TA** completed on 1296 in Sept with ON5RR, G4CCH and K5JL and heard a few others, but has a problem with his 23 cm PA. WD5AGO reports that not too

many were on 1296 during the SW. Tommy is using a 13' dish and 250 W.

**W7MEM** was on 70 cm in Sept, but heard nil during his skeds. Ray added a new one, JA6AHB, on 1296 in Sept. He will be on 222 during the contest.

**K4EME** worked on 432 in Sept **K1RQG** for initial #70 and **UA3PTW** #71. He also heard lots of other signals, but still feels his receiver is below par.

**W5LUA** was on 23 cm in Sept for about 1.5 hours and worked about 10 stations.

**KM5A** is healing up well and is now can get back to normal. **DK3WG** was on 70 cm in Sept and heard **W4ZRZ** and worked **SP6OCN** and **SP6JLW**. He is looking for **KO7N**.

**PA3CSG** QSO'd **W7SZ**, **OK1UWA**, **W6HD** and **VE4MA** on 3 cm..

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## FOR SALE

**F2DRO** is looking a solid state version of the General Radio IF amplifier.

**W0PHD**, Wally is helping dispose of equipment from the estate of **W0EUQ** who was interested in EME before his death. A partial list of equipment that may be of interest to eme'ers includes: **LT230S** with 28 MHz IF and 30 W output on **1296**, **23LNA-2n DEM 1296 preamp**, **CX-520 D relays**, **TRS sequencer by DEM**, **K9EK amp kit (single tube)**.

If your are interested in the complete list please email to [\*\*W0PHD\*\*](#) or send an SASE. Any reasonable bid on the above 1296 gear will be considered - the total package was worth \$2113 and was never used.

**K1RQG** suggests the following sources for interesting stuff --

[for 1 5/8" heliax](#)

[Matthew Strong](#)

[Scrape Electronics 1](#)

[Scrape Electronics 2](#)

[Scrape Electronics 3](#)

[Click here for brochur](#), for more info on these units.

**W6WE** is looking for info on the Erickson 902 Model CM-88 PA. He has a noise problem. He is also interested in K9BCT solidstate PAs.

**W7MEM** is still looking for a 9 WL M2 yagi for 70 cm.

**W5WOX** is looking for drive ideas for a 12' dish. C

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## TECHNICAL

**Precautions in the Operation of the TH-327 Cavity Amplifier by K5JL:** For over a year and a half I was living high off the Hog. I would let up on the key and there were those booming echoes. Then, one day out of the blue when I hit the switch -- crack-bang-flash-pop-arc. I had just taken the mother of all flashovers. Parts were blown off the meter circuit boards. All of the Zeners in the bias and screen supply were blown. The 3 kV had found its way down to the cathode and grid of the amplifier. The MOV did not by-pass the run away voltage as was planned. In checking the MOV. It was working as it should. At 620 volts it started to pass current to ground. It was supposed to pass 40,000 amps, but was just not fast enough for the "big bang". It concerned me that out of the blue came the big flashover. The cavity was torn down for a look inside. The cathode by-pass and the adjustable input tuning dielectric were fine and showed no signs of an arc or carbon path. (Both had been replaced with 5 mil Ultem). The flash over was across the 10 mil Ultem that comprised the anode by-pass. Closer inspection revealed that several layers of dust particles were on the Ultem near where the flash occurred. I had been blowing air into the anode for several years and there was no place for the dust and air born critters to go. Thus it collected on the Ultem until it was time to make the big bang. See the article by K0YW about a filter for the incoming air in the NL a few months ago. It is essential that the input air be filtered. The grid by-pass was meggered and it showed that one or more of the trapezoidal caps had a path to ground. Lucky, W7CNK took on the job of rebuilding the grid by-pass. A jig had to be made to hold the caps in place. A total of 25 caps were replaced and the capacity measured around 3,500 pf. The cavity was re-assembled and fired up. Screen current was flowing without drive indicating a path from either grid or cathode to ground. Again the cavity was taken apart and the grid ring removed. With a Megger it showed a path to ground. (One or more of the caps were leaking.) A bench supply was placed across the grid ring and when the voltage was raised to about 600 volts there was an arcing across one of the caps. Voltage was left on the grid ring to try to burn up the bad cap (800 volts), but this did not clear the leakage path. The bad cap had to be chiseled out. A voltage of 900 volts was left on the grid ring for 24 hours. No other leakage was detected and the grid ring was pronounced fixed for the moment. Again the cavity was re-assembled and tested. It still showed a small amount of screen current with no drive. This was fixed when a very small carbon arc on the cathode metering circuit board was found. The amp is now back up to about 1.5 kW out and is as stable as a 75 meter amp. With suggestions and help from W7CNK, K5GW and VE1ALQ. A new grid by-pass is in on the drawing

board. It will eliminate the caps and increase the voltage rating of the grid bypass to about 3 kV. Thus higher screen voltage can be placed on the cavity. If you don't have an air filter – then get one. Lack of an air-filter seemed to be the main cause of the failure. The cavity with a good TH-327 installed is at this time running very smoothly. The amp is operated with these voltages. The anode at 3 kV is drawing between 1 and 1.1 amp. With a screen voltage of 500 volts, the screen current is peaking 25 ma. Grid voltage is about 75 volts to give an idling current of 250 ma with a grid current of 2 to 3 ma. The heater is 5.8 volts at 34 amps. Drive is about 130 watts. Power out is 1.3 kW. By lowering the grid bias and letting the idle current come up to as much as 400 ma, a 2 kW output can be obtained. Also by increasing the drive to about 300 watts – the output is nearly 3 kW. This produces additional heat within the cavity, which will require the design of a better air-cooling system.

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## FINAL

This is another one of those months! I am writing this NL from the UK, where I am attending a conference. The NL will be about a week late and not as well proofed as usual, but should at least be in time for the 1st weekend of the ARRL EME Contest on 13/14 Oct. We spent last weekend with G3LTF. Peter with the help of his XYL, Margaret organized a mini EME Conference. [This despite the fact that Margaret was having an operation this past week]. G3LQR, G3WDG, G4KGC (WDG's XYL), G4ALH and G4NNS (getting on 10 GHz) were present. It was a great party. Sally and I very much appreciated the LTF hospitality. Later in the week we had the opportunity to meet with G4RGK, the Netnews Editor and his XYL Carol.

An old EME friend, Stan, W6ABN, passed away on 19 Aug. He had several strokes and was in the hospital for 2 days. He was 90 years old. Stan was active on 70 cm EME for many years until had to move to retirement home where his antennas were limited. He was a great EME operator and will be missed by all who knew him.

I hope you have started making plans for this summer's International EME Conference in OK. This conference will be a big one! The EME conference WEB Site is at:

[EME Conference 2002](#)

Zdenek, OK1DFC is requesting to present talks/lectures at the conference be sent to him by email at . Papers for the conference proceedings should be sent in either Word, TXT or PDF formats.

**KD4LT reports the NL distribution list is now back up to date. If you want the full NL (including pictures and diagrams), please let Scott know you want him to send the PDF version.**

**Please keep the info coming! Both technical and activity reports are needed. I hope to work many of you during the contest.**

**73 Al - K2UYH**



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**EME Skeds**

**6 OCT**

<b>Time</b>	<b>432.035</b>	<b>432.040</b>	<b>432.045</b>
0230z		RA3LE -VE1ALQ	KU4F -DK3WG
0300z	YO2IS -DL7APV	IN3AGI-VE1ALQ	W2WD -DK3WG
0330z		DL6NAA-VE1ALQ	W4ZRZ -DK3WG
0400z		EA8FF -VE1ALQ	
0430z			KO7N -DK3WG
0600z		KJ7F -DL7APV	
0630z		KO7N -DL7APV	
1130z		K7XQ -VE1ALQ	
1200z		KO7N -VE1ALQ	
1230z		VK4AFL-VE1ALQ	
1300z		W7MEM -VE1ALQ	

**7 OCT**

<b>Time</b>	<b>1296.050</b>	<b>1296.060</b>
0130z		WA1JOF-10UGB
0200z		WA1JOF-LX1DB
0230z		WA1JOF-EA3UM
0300z	F5HRY -VE1ALQ	WA1JOF-ON5RR
0330z	OE5EYM-VE1ALQ	
0400z	WB4BKC-VE1ALQ	

**Skeds for OCT 8**

<b>Time</b>	<b>1296.080</b>
0400z	DJ5MN -K1RQG
0430z	DJ5MN -W4RDI

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**Netnotes by K1RQG**

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